

IN THE DRAWINGS:

Please replace Fig. 2 with the attached replacement sheet. The attached replacement sheet of drawing includes changes to Fig 2. Also, attached is an annotated sheet showing the changes made to the drawing. Fig. 2 has been amended to include an ultrasonic oscillator 2A as disclosed in the specification.

Attachment: Replacement Sheet: (1 page)

Annotated Sheet Showing Changes: (1 page)

REMARKS

Upon entry of the present amendment, claims 1-15 are pending in the application, of which claims 1, 3 and 6 are independent. Claims 1-3 and 6-9 have been amended by the present amendment. Also, new claims 10-15 have been added by the present amendment.

The above-identified Office Action has been reviewed, the references carefully considered, and the Examiner's comments carefully weighed. In view thereof, the present Amendment-B is submitted.

It is contended that by the present amendment and arguments, all bases of objections and rejections set forth in the Office Action have been traversed and overcome. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Amendments:

In the claims: as noted above, claim 1 has been amended by further defining that the ultrasonic washing apparatus includes an ultrasonic oscillator which generates ultrasonic waves in the washing tank; that the shifting mechanism charges the object to be washed into the washing tank; and that the ultrasonic oscillator is operable to emit an ultrasonic wave toward the cleaning liquid.

Claim 1 has also been amended to correct minor grammatical informalities including informalities associated with antecedent basis. Claim 2 has been amended to correct minor grammatical informalities including informalities associated with antecedent basis.

Claim 3 has been amended by further defining that the ultrasonic washing method includes a step of emitting an ultrasonic wave toward the deaerated cleaning liquid. Claim 3 has also been amended to correct informalities associated with antecedent basis.

Claim 6 has been amended by further defining that an inlet door operatively associated

with the inlet opening; that an outlet door operatively associated with the outlet opening; that the shifting mechanism charges the object to be washed into the washing tank from a side of the washing tank and discharging the object to be washed from the washing tank through the outlet opening, and is provided near the inlet and outlet; an ultrasonic signal generator disposed with the washing tank; that the ultrasonic signal generator generates an ultrasonic signal toward the cleaning liquid; and that the resting level of the cleaning liquid is at a level below the inlet and outlet openings. Claim 6 has also been amended to correct informalities associated with antecedent basis.

Claim 7 has been amended by further defining that each of the auxiliary tanks includes an inlet opening and an outlet opening formed in opposed side walls thereof, wherein the auxiliary tanks are arranged substantially in line with the inlet opening and outlet opening of said washing tank such that the inlet and outlet openings of the washing tank are arranged in mutually opposite positions with the outlet opening of one said auxiliary tank and the inlet opening of another said auxiliary tank, respectively.

Claims 8 and 9 have been amended for consistency.

New claims 10-15 have added to define additional aspect of the claimed invention.

In the specification: paragraphs [003], [008], [010], [013] , [014], [027], [028], [030], [031], [034], [035], [038], [042], [048], [052], [054], [058], [070] and [071] of the specification have been amended to correct minor typographical errors and informalities. The paragraph [030] has been amended to provide express support for the amended claim language, and for the amended Fig. 2.

In the drawings: Fig. 2 has been amended to include an ultrasonic oscillator 2A (ultrasonic signal generator) consistent with the original disclosure and claims.

Applicant respectfully submits that the above amendments to claims, specification and the drawing, are fully supported by the original disclosure including the drawings and claims, and that no new matter is introduced into the application by the present amendment since all of the subject matter thereof was expressly or inherently disclosed in the specification, claims and drawings, as originally filed.

Specification

At item 2 (page 2) of the Office Action, the Examiner objected to a portion disclosure at page 7 (lines 11 and 26) of the specification for minor informalities.

Applicant's response:

As stated above, applicant has amended portions of the specification including above-identified portion of the disclosure, to correct minor informalities. Upon careful consideration and in light of the above amendments, applicant respectfully submits that objection to the disclosure is overcome.

For all of the foregoing reasons, applicant requests reconsideration and withdrawal of the objection to the portions of the disclosure.

Claim Rejections - 35 USC §112

At item 3 (page 2) of the Office Action, the Examiner rejected claims 1-9 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Applicant's response:

Upon careful consideration and in light of the above amendments to claims 1-3, 6 and 7, applicant respectfully traverses the Examiner's rejection of claims 1-9; and respectfully submits

that the rejection is overcome because each of claims 1-9 particularly point out and distinctly claim the subject matter of the applicant's invention.

For all of the foregoing reasons, applicant requests reconsideration and withdrawal of the rejection of claims 1- 9 under 35 USC §112, second paragraph.

Claim Rejections – 35 USC §103

1. In the Office Action (item 5, page 3), the Examiner rejected claims 1, 3 and 6 under 35 USC §103(a) as being unpatentable over Ogata et al. (US 5,333,628).

Applicant's response:

As stated above, applicant has amended independent claim 1, 3 and 6 by the present amendment. Upon careful consideration and in light of the above amendments, applicant respectfully traverses the Examiner's rejection of claims 1, 3 and 6; and respectfully submits that the rejection is overcome, and that each of claims 1, 3 and 6 is patentably distinct over the disclosure of Ogata et al. for several reasons, including those given below, and because the proposed modification of Ogata et al.'s system based on alleged ordinary skill in the art is improperly based on a suggestion entirely coming from the Examiner (guided by hindsight of applicant's disclosure), rather than from any teaching or suggestion of the reference itself; and the reference does not disclose features of the claimed invention.

For example, in Ogata et al.'s ultrasonic washing apparatus/method, a washing tank 3 has openings 6a, 6b in opposite sides thereof for continuous passage therethrough of upper and lower net conveyors 1a, 1b which secure workpieces therebetween while the workpieces are being ultrasonically washed. To achieve such continuous passage of the net conveyors, the openings 6a, 6b must remain open, while cleaning agent 5 in the washing tank is always filled to a level

above the openings 6a, 6b. Because of this, a quantity of the cleaning agent 5 is continuously flows out of the tank through the openings, is captured in a receiving / storing bath 9 which surrounds the tank 3, and is pumped back into the tank 3 via pump 10 and supply/adding bath 7. In other words, Ogata's apparatus / method function in a continuous manner which is contrary to the presently claimed invention that functions in a batch manner.

Given such structure of Ogata et al.'s apparatus, it is clear that such apparatus does not / cannot include "closable doors" for the openings 6a, 6b as required by claim 1, or the corresponding doors required by each of claims 3 and 6. Similarly, Ogata et al.'s apparatus / method also does not include a flow control mechanism which establishes a resting level of the cleaning agent below the heights of the inlet and the outlet openings in the tank as required by claim 1 (or corresponding features of claims 3 and 6) because Ogata et al.'s cleaning agent remains at a level above the openings, as shown in their Figs. 1 and 2.

In view of the above discussion, applicant respectfully submits that Ogata et al. fail to teach or suggest several required features of the claimed invention, but instead teaches away therefrom. A person of ordinary skill in the art would not consider it obvious to modify Ogata et al.'s system to achieve the claimed invention because Ogata et al. do not teach required features of the claimed invention.

For all of the foregoing reasons, applicant requests reconsideration and withdrawal of the rejection of claims 1, 3 and 6 under 35 USC §103(a).

2. In the Office Action (item 6, page 3), the Examiner rejected claims 1, 3 and 6 under 35 USC §103(a) as being unpatentable over JP 2001-34820 (JP '820) or JP 2001- 170583 (JP '583) in view of JP 10-335294 (JP '294).

Applicant's response:

As stated above, applicant has amended independent claim 1, 3 and 6 by the present amendment. Upon careful consideration and in light of the above amendments, applicant respectfully traverses the Examiner's rejection of claims 1, 3 and 6; and respectfully submits that the rejection is overcome, and that each of claims 1, 3 and 6 is patentably distinct over the applied references for several reasons, including those given below, and because the proposed modification of JP '820 or JP '583 in combination with JP '294 is improperly based on a suggestion entirely coming from the Examiner (guided by hindsight of applicant's disclosure), rather than from any teaching or suggestion of the reference itself; and the reference does not disclose features of the claimed invention. Applicant respectfully submits that the applied references fail to teach the claimed invention for substantially the same reasons as discussed above in relation to the Ogata et al. reference.

Applicant respectfully submits that both JP '820 and JP '583 teach apparatus / methods in which a conveyor continuously moves parts through a washing tank as the conveyor enters an opening in one side of the tank and exits through another opening in an opposite side of the tank. There are no closable doors for these openings and it would not be obvious to provide these openings with closable doors as this would prevent intended operation of the disclosed apparatus. Both JP '820 and JP '583 teach away from the claimed invention, just as Ogata et al. teach away from the claimed invention. The apparatus / methods of JP '820 and JP '583 function in a continuous manner which is contrary to the presently claimed invention that functions in a batch manner.

The JP '294 reference does not overcome the deficiencies of JP '820 and JP '583, and is otherwise incompatible with these references as JP '294 teaches a batch-type apparatus.

More significantly, applicant respectfully submits that all three of the applied Japanese references were cited in the International Search Report for the International Application, and the Examiner there also found that the claimed invention distinguishes over these references whether considered singly or in combination (e.g., each reference is indicated to mere be an “A” type reference showing general state of the art, but not of particular relevance.

For all of the foregoing reasons, applicant requests reconsideration and withdrawal of the rejection of claims 1, 3 and 6 under 35 USC §103(a).

3. In the Office Action (item 7, page 4), the Examiner rejected claims 2, 4, 5 and 7-9 under 35 USC §103(a) as being unpatentable over Ogata et al. or JP ‘820 or JP ‘583.

Applicant’s response:

Upon careful consideration and in light of the above amendments, applicant respectfully traverses the Examiner’s rejection of claims 2, 4, 5 and 7-9; and respectfully submits that the rejection is overcome, and that each of claims 2, 4, 5 and 7-9 is patentably distinct over the applied references for the same reasons as discussed above in relation to the Ogata et al., JP ‘820 and JP ‘583 references, and because the proposed further modifications to these references are improperly based on suggestions coming from the Examiner (guided by hindsight of applicant’s disclosure), rather than from any teaching or suggestion which may be fairly gleaned from the references themselves.

Applicant respectfully submits that a person of ordinary skill in the art would not consider it obvious to duplicate the number of washing tanks, as proposed by the Examiner, because none of the applied references disclose doors for the side inlet and outlet openings in the washing tanks thereof, nor do any of these references disclose or require packing in association

with the side inlet and outlet openings which remain open. Hence, even if hypothetically, the washing tanks of these references were multiplied, the resulting apparatus would not be as claimed, as recited in claims 2, 4, 5 and 7-9.

Thus, each of the applied references considered either singly or in combination, fail to teach the total combination of each of claims 2, 4, 5 and 7-9.

For all of the foregoing reasons, applicant requests reconsideration and withdrawal of the rejection of claims 2, 4, 5 and 7-9 under 35 USC §103(a).

Other Matters

The additional reference cited by the Examiner on the form PTO-892 included with the Office Action, US Patent 5,501,240 to Dohku et al. has been considered by applicant. However, applicant respectfully submits that the additional reference fails to overcome the deficiencies of the applied references, as discussed in relation to the present claims hereinabove.

Applicant respectfully submits that new claims 10-15 are patentably distinct over the applied references for the reasons provided in relation to claims 1 and 6.

CONCLUSION

Based on all of the foregoing, applicant respectfully submits that all of the objections and rejections set forth in the Office Action are overcome, and that as presently amended, all of the pending claims are believed to be allowable over all of the references of record, whether considered singly or in combination.

Applicant respectfully submits that all of the above amendments including the new claims are fully supported by the original application. Applicant also respectfully submits that

the above amendments do not introduce any new matter into the application.

The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

A petition for one-month extension of time including fee for same is being concurrently paid via EFS-Web.

If the Examiner is not fully convinced of all of the claims now in the application, applicant respectfully requests that he telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable consideration is respectfully requested.

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Respectfully submitted,



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